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# Valvular Heart Disease

## ABSENCE OF AORTIC VALVE CALCIFICATION IN NONAGENARIANS; CLINICAL, LABORATORY AND ECHOCARDIOGRAPHIC CORRELATES

ACC Moderated Poster Contributions
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**Background:** The expected relationship between increased calcium deposition on the aortic valve (AV) with advanced age is not always found. We sought to determine the prevalence of lack of AV calcification and its association with demographic, clinical and basic laboratory variables in a group of nonagenarians referred to echocardiography.

**Methods:** Between 2004-2011, 199 patients (pts) ≥ 90 y.o. (mean age 93 ± 3 yrs, range 90-103 yrs, 57% females, mean LV ejection fraction = 52 ± 13%) were identified from the echo lab database. Medical charts were reviewed and the mean follow was 26 ± 25 months. A validated semiquantitative method was used to define the severity of AV calcification. 56 pts (28%) had no calcification and 143 had calcified AVs (37% mild, 19% moderate and 16% severe). Independent t-test and Fisher's exact test and Cox proportional hazards regression model were used as appropriate.

**Results:** Of the 35 demographic, medical history, clinical, laboratory and echocardiographic variables which could be examined, the only differences between the 2 groups was a lower prevalence of heart failure in the no calcific AV group compared to AV calcific group (30% vs 53%, p = 0.02). No differences in the main chemistry, lipid profile, hematology and metabolic panel including serum calcium and phosphate were found. Pts with AV calcific had a higher prevalence of aortic root, mitral leaflets and mitral annular calcification (63 vs 11%, p <0.0001, 44 vs. 12%, p < 0.0001, and 63 vs 43%, p = 0.008, respectively). At the end of the f/u period, there were 141 deaths, 32 (23% ) in the no calcifc group and 109 (77%) in the calcific group (unadjusted models p = 0.008, adjusted models for age and gender p = 0.0006).

**Conclusions:** 1. More than 25% of nonagenarians pts had no AV calcification and they had a lower prevalence of heart failure. 2. Pts with calcific AV had associated calcification of other valvular and vascular structures and have a higher all-cause mortality. 3. None of the examined demographic, comorbidities and ancillary lab tests variables were associated with absence of AV calcification. 4. Not examined genetic and/or environmental factors may explain the presence of normal aortic valves in the nonagenarians.